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II.—*Language-Rivalry and Speech-Differentiation in the Case of Race-Mixture.*

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RACE-MIXTURE is of common occurrence. As the races involved generally speak different languages, one might expect speech-mixture also to take place. This, however, happens to a much slighter degree than one would suppose. One of the two languages is generally at a disadvantage and sooner or later yields to the other (Paul's *Principien*², page 338). Before it disappears it often passes through a transition stage showing more or less admixture of the stronger language. The surviving speech, however, generally betrays comparatively little influence of the language it has overcome. In fact, real speech-mixture does not often take place where races mix, but where a certain intercommunication, especially commercial, is kept up between neighboring tribes that do *not* mix. Such are the Pidgin-English spoken by the English traders in China, the Chinook jargon or Indian trade-language of the north Pacific coast (Hibben: *Dictionary of the Chinook Jargon*, Victoria, B.C., 1889), and the Negro-English of the west African coast (Grade and Henrici: *Anglia*, XIV., XX.). Such a jargon is used only when representatives of the two races meet, and it does not displace either of the languages out of which it is formed. Cases of this kind do not fall within the province of this paper.

I.

The conditions under which race-mixture takes place are not uniform, and we should accordingly expect to find the consequent language-rivalry resulting differently. It is the chief object of this paper to formulate the conditions under which such language-rivalry takes place, and to state the

results that follow each condition. So far as my knowledge goes, the subject has not hitherto received systematic treatment. Of course, in matters of this kind the number of possible cases is infinite, and any scheme that presents the facts with clearness must ignore exceptional forms. The characteristic cases lend themselves to a very simple classification.

(1) One or more armies by superior prowess overcome the military forces of a country and take possession of it. In numbers they are far inferior to the inhabitants and they do not undertake to exterminate the population. They assume control of the government and, having removed such natives as are likely to be troublesome, settle down to the enjoyment of their position. Their leader becomes the king, and his relatives and friends the nobility, who share with some of the rank and file the military, civil, and ecclesiastical offices. In other words, the foreigners become the upper classes of the country. However, as they constitute only a minority, their language is doomed. They are forced to learn the language of their subjects, and their grandchildren may know it better than they know the language of their ancestors. The natural tendency in this direction is hastened by the desire of the ruling class to identify themselves and their interests with those of the country—often in direct hostility to those of the country from which they originally sprang. Witness the final attitude assumed toward France by England's Norman-French sovereign and nobility. The language of the people becomes the language of all classes; still, as the natives have been forced out of certain spheres of life, the native words for the things specially concerned in these pass out of use and are forgotten, and the words used by the foreign intruders take their place. This is true especially of words pertaining to government, the army, and the equipment of soldiers and horses. For example, at some prehistoric period (antedating the Germanic shift of consonants) the primitive Germanic people were conquered by some comparatively small Celtic force, as is proved by the fact that the oldest Germanic words for 'king' and 'officer' (still seen in German *Reich* and *Amt*), as probably also those

for ‘oath’ and ‘hostage’ (German *Eid* and *Geisel*), are Celtic words (Kluge in Paul’s *Grundriss*², I., page 324). One of the most interesting instances of this kind is the conquest of the Finns by a Germanic tribe, who became their rulers but eventually merged so completely with the conquered people that their foreign origin was quite forgotten and was only brought to light when philologists discovered in Finnish a large number of Germanic words of the earliest type, among them such as pertain to government and war; for example, words for ‘king,’ ‘prince,’ ‘messenger,’ etc. (*kuningas*, (*d*)*ruhtinas*, *airut*, etc., Kluge, *id.*, page 362). Similarly the old Germanic words for ‘king,’ ‘prince,’ ‘army,’ ‘sword,’ ‘armor,’ ‘battle-axe,’ ‘helmet,’ ‘flag,’ and the like (*rīkis*, *kuningas-kūnegū*, *plūkū*, *mīči*, *szarwai*, *brady*, *šlēmū*, *horagy*, etc., Kluge, *id.*, page 361), that are preserved in Slavic, point to a conquest of Slavs by people of Germanic stock and the eventual absorption of the Germanic rulers (Kluge, *id.*, page 361). For historic cases of this principle, we need but refer to the story of the Goths in Italy and Spain, of the Franks in Gaul, of the Normans in France and Italy, and of the Norman-French in England. Of course, the influence of the conquerors was greater if there were more of them, if they had been long close neighbors of the people they conquered, or if they for some time maintained the bonds that united them to their mother country (the cases thus verging on type 2 b, page 34). Thus the influence of the Franks on the language of France was greater than that of the Goths on the language of Spain, and the influence of the Norman-French in England was still greater. Yet in each case the minority ultimately succumbed.

(2) In order that the language of the conqueror shall prevail, one of the two following conditions must exist.

(a) The conquest is made by many bodies of invaders who bring with them their whole households and are followed for a long period of time by similar hordes of kinsmen. Such was the invasion of Romanized Britain by men of Germanic blood. The invaders did not become the ruling class merely; they also made up the bulk of the middle class, the natives

receding before the conquerors or becoming their slaves. Under these conditions the supremacy of the speech of the conquerors was but natural. The speech of the natives, being the distinctive mark of the serving class, was soon laid aside and left traces only in a few terms pertaining to the handicrafts by which they served their masters, in the names of native plants and vegetables, and in geographical designations (*Kluge, id., I.*, page 930). Similar conditions are presented by the conquest of America by Europeans; but in the Germanic communities in America we can hardly speak of race-mixture between the natives and the immigrants.

If such a foreign invasion is not sufficiently large or continuous, its linguistic superiority is local and temporary: in time a reaction sets in in favor of the native language still spoken in the surrounding country. Thus Scandinavian speech at one time got a good footing in parts of England but ultimately had to succumb.

(b) A more powerful nation conquers the people and annexes its territory or makes a province of it. If purely military, such subjugation furnishes cases similar to those of type i above; compare the story of some of the outlying provinces of Rome. If, however, not only governors and soldiers but also merchants and especially colonists are sent out to the province, where they become the leading citizens of the large towns and establish new towns, then the foundations are laid for the thorough denationalization of the dependent people. If the province is thus for centuries kept under the direct influence of the ruling country, it will imitate more and more, and finally adopt in very large measure, the customs, the habits, and the speech of the ruling country. The process begins in the cities and at the military posts and is longest in reaching the country and the outlying districts. Such was the history of the Romanizing of Italy, Spain, Gaul, and Britain, and, if the English could acclimatize, such would probably be the future of India. Similar, also, is the story of what happened to the Slavs of eastern Germany and to the Dutch in New York state, and of what is going on to-day among the French in Louisiana and in the old German set-

tlements of Pennsylvania. The Danish supremacy in Norway came to an end before this process was completed and now a reaction in favor of the native speech has set in, producing a peculiar state of things. The reconquest of Elsass-Lothringen took place before French had become the language of the common people of the provinces.

(3) The invader comes in peaceful bands of immigrants, ready to do menial service or follow a humble calling. It is usually not to his advantage to herd with those of his own nationality who are seeking like occupation,¹ but rather to go where there are those who do not care to do what he is willing to do and who will pay him well for his labor. He thus mingles among the natives and settles down in their midst. The better he learns to speak their tongue the faster he gets on in the world. His children play with their children and go to school with them. If in their dress or speech they betray their foreign origin, they are ridiculed and derided as 'Dutch' or Irish or whatever it may be. That they take pains to rid themselves of all traces of their alien origin and avoid the speech of their parents is but natural. Their children, in fact, take their turn in tantalizing the children of the later immigrant. In this way vast numbers of newcomers may be assimilated year after year and go to make up a large part of the new race, while their language makes practically no impression on that of the country. This is the story of what is going on in all parts of the United States to-day. I know it all too well, being myself of foreign parentage. That English is to remain the speech of an American race with comparatively little English blood in its veins, there can be no question.

To sum up. In the struggle of two languages in the same territory, other things being equal, the majority wins. But

¹ There are two exceptions to this: (*a*) A pastor or a land speculator forms a colony of peasants who take up a piece of land and establish a farming community. In this way a speech-island is formed which holds its own for two or three generations. (*b*) Large numbers of Chinamen, Hungarians, etc., are imported to work mines, build railways, etc. After acquiring a certain amount of money, they usually return to their native land, leaving practically no trace of their stay in the country.

1	<i>a</i>	2	<i>b</i>	3
The conquerors are a comparatively small body.	The conquerors come in vast hordes.	The conquerors become the upper and middle classes and a part of the lower class.	The conquerors become the upper class and the influential element of the middle class.	Immigrants come in scattered bands and at different times.
The conquerors become the ruling class.				The immigrants become servants or follow other humble callings.
				The language of the conqueror dies out and makes up the native language the conquered, but it is apt to be learned largely by sound-terms pertaining to the government, the army, and those other spheres of life that the conquerors have specially under control.
				Romans in Spain, Gaul, and Britain.
				Northmen in France, Normans in England, Franks in Gaul, Manchoos in China.
				Germans in the English-speaking communities of America.

other things are not usually equal: it generally happens that one side has some advantage other than that of numbers. This advantage is usually that presented by superior social position. The higher civilization of the people, doubtless, also furnishes a certain stability, but the intrinsic superiority of one language probably has little weight in the matter. If the majority enjoys the advantage, its victory is all the more swift and complete. If it is the minority that has the advantage, this advantage must be very great to enable it to overcome the majority. We have seen (p. 32, 1) that social superiority alone is powerless to aid a minority in imposing its language on the majority; (page 34, 2 b) that subjugation to a conquering nation that plants colonies in the conquered territory and maintains control of it for centuries may force upon the natives the language of the conquerors though these be fewer in number; and (page 35, 3) that preëmption of the ground may enable a minority to impose its language upon a majority, provided that majority is broken up into small bands coming at different times, so that those that come in any one generation are really in a minority.

These (1, 2 a, 2 b, 3, pages 32-35) are the four chief conditions of race-mixture, and we have found that in the first and the last the speech of the natives prevails while in the second and third that of the conqueror is triumphant. We have also seen that in all cases except type 2 b (page 34), that language prevails that is spoken by what is at the time the majority.

Whichever language prevails, a large body of people who would otherwise speak one language now speak another; and we have to ask ourselves the question: "*How* do they speak it?" The fact that they are of other stock does not necessarily cause them to speak it differently from those whose ancestral tongue it is. The question may be regarded first from two extreme positions: (*a*) When an adult German attempts to learn English, his speech habits, including all the mental processes involved, are fixed, and it is extremely difficult for him to acquire new ones. The elements of the foreign language suggest those of his own that are most like

them, and he therefore substitutes the German elements for the English when he attempts to speak the foreign tongue (Paul's *Principien*², page 340 f.). That is, he speaks English with the substitution of German sounds, stress, and pitch. (*b*) On the other hand, when a wealthy American woman adopts a German baby and brings it up with her own little ones, its speech shows no trace of the speech of its parents. Now, between these two extremes there are many degrees of difference, and it is not always easy to say where sound-substitution ceases and natural speech begins. In general, it may be said that all foreigners who have learned to speak before they come to this country, and the children of foreigners who maintain the foreign language in the home circle, learn English by sound-substitution. If, however, the young come early in contact with a majority of English-speaking persons, they usually thoroughly acquire English speech-habits, and occasionally a gifted adult does the same. It thus happens that, except in small settlements made up of foreigners, and among the lower classes of a few of our large cities, most of the children and practically all of the grandchildren of foreigners speak English, when grown up, without foreign taint. This accounts for conditions included under type 3 (page 35). The same thing is true when a small ruling minority gives up its foreign speech and learns that of the native majority (page 32, 1). And practically the same result is obtained when a native minority (page 33, 2 *a*) succumbs to a foreign majority, though the vulgar dialect may be then slightly influenced by the native dialect.

When, however, a whole population comes in the course of centuries to give up its natural speech for that of a ruling minority (page 34, 2 *b*), there can be no question that the substitution of the natural sounds and voice-inflections for those of the language to be acquired plays an important part, and in large measure determines the character and future of the language as spoken in the country in question. That we have here the explanation of much of the difference between the Romance languages of Spain and France and

Italy, I have no doubt. The same is true in large measure of the High German spoken in Low German territory and of the Danish spoken in Norway. We are therefore not surprised when we are told (Nissen: *Italische Landeskunde*, Chapter XI.) that the dialects of modern Italy correspond geographically pretty closely to the non-Latin languages once spoken in the Peninsula. In so far I thoroughly agree with the position assumed by Hirt in an article in *Indogermanische Forschungen*, volume 4, page 36 ff., in which he explains the difference between two related languages by supposing that the indigenous inhabitants of the two countries involved were different, but both were conquered by bodies of people speaking the same tongue, and that the resulting languages are two different imperfect imitations of the speech of the conquerors. We are accustomed to ascribe linguistic changes to changes in the average temperament of a people, and this in turn to their health as affected by climate and mode of life (my *German Orthography and Phonology*, § 104, 3). All this is necessarily more or less vague and indefinite, and for that reason somewhat unsatisfactory. The new theory offers us, for the cases to which it applies, a very simple, almost mechanical, explanation; in so far it is exceedingly attractive. The danger is that we shall be inclined to use it too freely—to apply it to cases where it has no application, and to imagine that it explains more than it really does in the cases where it has application.

II.

The first mistake was made, in my opinion, by Hirt, when he applied the theory in explanation of the differentiation of Indo-European speech, and I shall now concern myself with the refutation of this aspect of his paper.¹ To be brief, Hirt believes that bodies of Indo-Europeans left their original seats and conquered various non-Indo-European peoples,

¹ Though he does not appear to have been aware of the fact, Hirt's theory is, in reality, a revival of an older one advocated by Ascoli and later by Penka and Bradke. See Kretschmer: *Geschichte der griechischen Sprache*, page 120.

just as in later days various Germanic hordes conquered non-Germanic peoples. He then assumes that the conquered peoples, though much in the majority, adopted the speech of their conquerors, with a substitution of native sounds and habits of speech, and that in this way there arose the various Indo-European languages, as did later the various Romance languages. Hirt seems not to observe that by appealing to the wanderings of the Germanic peoples and to the Romanization of Spain and Gaul, he secures not two, in fact not even one, historical parallel for what he assumes to have happened in prehistoric times. What he has is this: the first half of one parallel and the second half of another. He observes that many Germanic migrations were of the type 1 (page 32), and he assumes that the Indo-European migrations were of the same kind; but he then drops this historical parallel (according to which we should have expected the speech of these comparatively small bodies of conquerors to have died out) and jumps to the conclusion of a case of the type 2 α (page 33), whose premises are totally different from those of the case he assumes. It is essential to Hirt's theory that the conquering bodies of Indo-Europeans should be small compared with the number of the people they conquered, so that their habits of articulation and accent be of little or no account in the ultimate result; he finds similar conquering bodies of Germanic peoples and compares the two; but, when he finds that what happened in the cases that we know about, is not what he assumes happened in the case he is arguing, he says it is due to "besonderen Zufällen, besonderen historischen Momenten." If we appeal to historical parallels we must take them with all their consequences. If the cases are not sufficiently parallel to show similar results from similar causes, we had better leave them alone. On the other hand, if we wish to prove that the differentiation of Indo-European speech was like the differentiation of Romance speech, we must be able to show that the conditions under which the differentiations took place were alike or equivalent. But even a cursory examination of the manner in which the Romance

countries were Romanized (Mommsen: *The Provinces of the Roman Empire*, I., pages 69 ff., 75 ff., 81 ff., 86 ff., 97 ff., 111 ff., etc.) will make it clear that no parallel could possibly be drawn between the conditions under which the Romance languages arose and those that we can suppose to have existed while the Indo-European languages took shape.

Hirt believes that his argument is strengthened by the fact that there is greater diversity among the Indo-European languages than, for example, among the dialects of Turkish, and that the Celtic¹ changed more rapidly than Slavic and Germanic, explaining the latter on the assumption that the Celts assimilated the largest number of non-Indo-Europeans. The latter argument is particularly unfortunate. As Kretschmer (*Geschichte der griechischen Sprache*, page 122) has shown, this rapid change in Celtic is comparatively late, but would be early if it were to be explained as Hirt suggests. Moreover, the assumption that rapidity of change goes hand in hand with race-mixture is not upheld by historical evidence. Indeed, it is a well-known fact that colonists that go to foreign shores and assimilate a large portion of the native population, nevertheless are quite frequently more conservative in their speech development than the parent stock on the native heath. Is not the language spoken in Ireland by an almost purely Celtic stock practically only obsolete English? And why is the English spoken in America by the most conglomerate population ever gathered on one continent extremely conservative as compared with the English of the mother country? These matters are still too uncertain and too susceptible of various explanation to form a sound foundation for arguments of the sort that Hirt makes.

Hirt is not perfectly clear as to what sort of substitution

¹ Elsewhere (page 42) Hirt says: "Die Kelten mussten demnach ihre Sprache am meisten verändern, ebenso wie das heutige Englisch so stark durch die Sprachmischung verwandelt ist." The idea that the changes (other than that of vocabulary) that English has undergone are due to speech-mixture has had to recede before every serious investigation. On another occasion I shall deal with the subject in a comprehensive way.

he would ascribe to the learners of the intruding Indo-European speech. On page 40 he speaks of simple sound-substitution, like that of voiced consonants for weak voiceless consonants. Farther on he speaks of the substitution of the native "accent, etc., " and regards many of the changes in the acquired language as arising in the course of time in consequence of this substitution of the native system of accent. If we are willing to be satisfied with vague statements like these, either hypothesis seems likely enough. But when we apply the statement to a definite case, the theory disappears in thin air.

In order to get clear ideas as to the matter, let us take a specific case, namely the Germanic branch of the Indo-European family, and let us test both forms of substitution. First let us suppose that a pure Indo-European form of speech with

t th d dh

was adopted by a conquered people who substituted native sounds for those above. As a result of this and similar substitutions we get a barbarized form of Indo-European which we have termed Germanic and which shows us in place of the above consonants

b þ t ð.

On Hirt's theory these latter sounds either (1) are the native sounds that the conquered people substituted for the original Indo-European sounds, or (2) they have developed out of such sounds as the natives substituted. If the first be true we ask ourselves why the conquered people did not use their *t* for the Indo-European *t*, instead of substituting it for the Indo-European *d*, and then substituting *þ* for the Indo-European *t*. If the second supposition be true, Hirt's theory helps us very little indeed: the native conquered population put into the language sounds very similar to the *t*, *th*, *d*, and *dh* of the Indo-European, and all the change from that slightly variant form to the one that we find in Germanic was of subsequent development—and must be explained by the usual methods after all. Moreover, it is pretty well

settled that those consonant changes that distinguish Germanic speech from Indo-European, were not all contemporaneous. Hirt might say that the early change of *t* to *th* was a case of sound-substitution, but there then remain the later changes of *dh* to *ð* and of *d* to *t*. If we still have to account for these changes as natural developments, the calling in of sound-substitution to explain the change of *t* to *th* is a resort to a *deus machinae* and a very unnecessary *deus machinae*.

Here an appeal might be made to that possible interpretation of Hirt's theory that would assume that the conquered natives substituted a strange system of accent from which subsequently resulted those changes that made their speech the Germanic variety of Indo-European. I am not aware that we know as yet that a change from any form of accent to another would bring about such changes in consonants as characterize Germanic speech, and in the absence of such knowledge, the assumption that a change of the character of the accent would produce these changes, is only a guess. Just what system of accent Hirt would here introduce, I do not know. We do know that the Germanic people acquired a system of accent that differed from that of Indo-European, and on page 45 Hirt suggests that the system was adopted from the conquered non-Indo-European people. But we know that this system was not adopted by the Germanic people until some time *after* those changes had taken place that constitute Germanic speech a separate language, and it can therefore in no way be responsible for them (Brugmann², I., § 1071).

I have shown that Hirt's supposition that comparatively small bodies of Indo-Europeans conquered non-Indo-European races and forced their language upon their subjects, is contrary to all historic evidence in similar cases, and that thus we have removed the whole foundation on which rests his theory of the differentiation of Indo-European speech. I have also shown that, even if, for the sake of argument, we granted his supposition, his theory signally fails to explain the differentiation of Germanic speech from Indo-European.

That we have to reckon with the possibility of sound-substitution in those cases where we have reason to believe that a foreign tongue has been imposed upon a people, I am fully convinced; and in so far I believe we have reason to be grateful to Hirt for emphasizing the fact, even if he has attempted to give it too wide application. In such cases, however, we should hesitate to ascribe changes to sound-substitution that are easily explained as natural developments. When a German learns English he is apt to substitute *t* or *s* for *þ*, for example in ‘thorn.’ If, now, we find so unnatural a change as *þ>t* (of course the change is natural enough next to another voiceless spirant, cf. *hust(h)ings*, *nost(h)ril*, etc.), we are justified in suspecting sound-substitution. The same would also usually be the case with *þ>s*, but not necessarily. The German also substitutes *d* for *ð*, for example, in ‘the,’ but the change *ð>d* is also a very common natural change, as, for example, in Low German. We have, therefore, no right, on finding the change *ð>d* at an earlier period in South Germany to say this must be sound-substitution due to the ineffectual attempts of a non-Germanic people to acquire Germanic speech. This is, however, what Hirt does when (page 42) he extends his theory to the differentiation of West Germanic into High German and Low German. If he wishes to prove that the High German variety of West Germanic is due to the acquisition of the language by a non-Germanic population, it is incumbent upon him to show that the changes involved are of such a character as are not easily explained as natural developments. But, as also in the case of the first shift, we know that all the changes that distinguish High German from West Germanic in general, are perfectly natural ones. We can, in fact, trace their progress and their relative chronology. It was probably a consciousness of this fact that led Hirt to speak here of “*a kind* of substitution.” Either it was substitution or it was not, and there are not so many kinds of substitution but that each might be tested. A little definiteness here will, as in the case of the earlier shift, show that there is no foundation for the substitution idea.

Hirt's theory is suspicious for the very reason that it proves too much, if anything. It removes the necessity of other explanations. Wherever we find differences in neighboring territory, for example, between North and South Germany, we have but to ascribe them to hypothetical prehistoric antithetic races. When we find that in a given climate the same phenomenon affects the languages of people of diverse origin (for example, the High-German shift in the speech of the Franks, the Alamannians, and the Lombards), we have only to invoke a single hypothetical race whom these three different tribes conquered. Thus, his advocacy of sound-substitution as a result of race-mixture leads Hirt to speak somewhat slightlying of other explanations of sound-change, for example, the effect of climate. He believes (page 39) that when a people removes to another country the new climate may actually destroy a large per cent of the community, but he appears to doubt that that same climate may so affect the health of the survivors that their temperament and consequently the tempo and accent of their speech may be modified and other sound-changes result. This subject is not yet so well cleared up as we could desire, but that is no reason why we should ignore it or underestimate its importance.

III.

There can be no question that, as Hirt says, the people who speak Indo-European are to a considerable extent of non-Indo-European blood, and that those who speak German are in large measure not of German stock. As stated above, race-mixture is easy and common, speech-mixture is rare, the language of the majority usually quite driving out that of the minority. But that does not mean that the future of the surviving language is to be unaffected by the race-mixture; and here I wish to offer a theory that I believe will explain many of the changes that Hirt has in mind, without doing violence to the facts of history.

Of course, a language does not reflect the temperament

and other speech conditions of those that speak it at any particular time. It represents, rather, the results of the language-controlling factors of many preceding generations. This linguistic complex is inherited, so to speak, from those that shaped it. But if the conditions that control linguistic utterance change, they will gradually modify the language. Such a change in the conditions that control linguistic utterance may be due to a change in the average temperament or health, whether caused by climate or mode of life, or it may be due to race-mixture. The assimilation of a large alien population, though it constitute only a minority, makes a new race that differs from the old one. In the old one there were certain contrary tendencies struggling for mastery; the absorption of this large foreign element often strengthens one or the other side. If it strengthens a majority, it may hasten changes already begun; if it strengthens a minority, it would prevent changes that would otherwise have ultimately come about, or even produce contrary ones. Thus, race-mixture may indirectly affect speech and be in part responsible for just such differentiation as that which brought about the various Indo-European languages. And while the English of America will probably never (except in quite peculiar cases) be affected by the German spoken among us, I should not be surprised if the very large admixture of German blood should so modify the average American of the future that his English will undergo changes that it might not have undergone except for this fact. But the linguistic modification here considered is quite a different thing from sound-substitution. It is less simple, but also less crude. The changes it involves are just as natural as those that occur in a population having no foreign admixture; for in all countries there are diverse elements and diverse tendencies to change, and the fate of the language depends on the adjustment of these differences (Paul's *Prinzipien*², page 56 ff.).

Unless I much deceive myself, the theory I have here advanced is so simple and natural that, when once stated, it requires little exposition or defence. It involves, moreover,

no assumptions that are out of harmony with the conditions that race-mixture actually presents. Thus, for example, it is not necessary to suppose, as it is in Hirt's theory, that the migrating hordes of Indo-Europeans were small and made up a minority of the population of the country that they became masters of (page 40 above). We can suppose, as is much more natural and likely, that they advanced into non-Indo-European territory just as the Angles and Saxons invaded Britain. The survival of their speech would then be just what we should expect according to 2 a (page 33), although this speech might ultimately suffer modification through a change in the character of the race, brought about by the absorption of alien population. The same is true of the South-German situation. Moreover, the changes that we should like to associate with such race-mixture are usually separated from it by a considerable expanse of time, which, as Kretschmer (*Geschichte der griechischen Sprache*, page 122 f.) pointed out, is irreconcilable with Hirt's theory of sound-substitution, but is just what would be expected if these changes came about, as I have suggested, as a result of the modification of the race, and thus were of the slow growth characteristic of all normal linguistic change.